



Federal Emergency Management Agency

Region IV

3003 Chamblee Tucker Road

Atlanta, GA 30341

Phone: (770) 220 5406

Fax: (770) 220 5440

PROGRAMMATIC FINDING OF NO SIGNIFICANT IMPACT

FEMA 1249-DR-FL UNMET NEEDS

Florida Keys Wastewater Management Improvements,
Monroe County, Florida

In response to Hurricane Georges damages and losses, Congress enacted Public Law 106-31, Emergency Supplemental Appropriations Act for Fiscal Year 1999, to fund long-term disaster recovery projects in Florida counties whose needs were unmet through primary disaster relief funds. Monroe County applicants have proposed wastewater treatment projects in various locations in the Keys for "Unmet Needs" funding. The Village of Islamorada (Islamorada) and the Florida Keys Aqueduct Authority (FKAA) (hereafter, "Project Applicants") have requested Federal assistance, through the Florida Division of Emergency Management (FDEM), to upgrade or replace existing wastewater treatment facilities in their jurisdictions.

The National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508), and FEMA regulations for NEPA compliance (44 CFR Part 10) direct FEMA to understand and take into consideration during decision making, the environmental consequences of proposed Federal actions (projects). Accordingly, FEMA prepared a Programmatic Environmental Assessment (PEA) to address the likely effects of common technological and physical factors of implementing a range of wastewater collection, treatment, and disposal alternatives proposed by the project applicants. The PEA has been prepared in coordination with the project applicants, Monroe County and others; and in consultation with State and Federal regulatory agencies. Because proposed actions and their effects vary based upon project location, design alternatives, and other site-specific criteria, a Supplemental Environmental Review (SER) document will be prepared for each project. The SER may be a Supplemental Environmental Assessment (SEA), which will be prepared for projects whose environmental effects are not "significant" and are within the scope of this Programmatic Finding of No Significant Impact (PFONSI). Alternatively, the SER may find a project has environmental effects that are adverse, "significant," and beyond the scope of this PFONSI, in which case an Environmental Impact Statement (EIS) would be required and would be prepared per 44 CFR Part 10.8. The "significance" of a project's effects will be determined by their context and intensity per NEPA and per CEQ and FEMA regulations. Project alternatives evaluated in the PEA include:

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Alternative 1: No Action

FEMA would not provide funding assistance to project applicants for the proposed wastewater management improvements, as prescribed in the Monroe County Sanitary Wastewater Master Plan (MCSWMP). The county (i.e., Monroe County, cities, private wastewater utility operators, business owners, and homeowners) would have to construct either community or regional wastewater treatment plants (WWTPs), install on-site wastewater nutrient reduction systems (OWNRS), and/or upgrade or rebuild existing wastewater treatment plants to meet the Florida Statutory Wastewater Treatment Standards by 2010.

Alternative 2: Centralized Wastewater Treatment Plant Alternative

With FEMA funding assistance, Project Applicants would implement part of the MCSWMP at selected locations in the Lower, Middle, and Upper Keys, to meet Florida Statutory Wastewater Treatment Standards by 2010. Existing on-site wastewater treatment systems would be upgraded by constructing new community or regional WWTPs, or upgrading existing WWTPs; all to meet Advanced Wastewater Treatment standards. Wastewater effluent would be collected through either vacuum pumping or a low-pressure grinder pump system. Treated effluent would be disposed of through shallow injection wells and/or made available for reuse.

Alternative 3: On-Site Treatment Upgrades

With FEMA funding assistance, Project Applicants would upgrade on-site wastewater treatment systems, such as cesspools and septic tanks, to clustered OWNRS. OWNRS are engineered treatment systems that, at a minimum, meet Best Available Technology (BAT) treatment standards, and discharge treated wastewater through either a subsurface drip irrigation systems or shallow injection well. Clustered OWNRS can range in capacity from serving two to 50 homes.

Findings

The PEA divides the affected environment into eleven major resource categories: Topography, Soils, and Geology; Water Resources and Water Quality; Biological Resources; Air Quality; Cultural Resources; Socioeconomics; Hazardous Materials; Demographics and Environmental Justice; Infrastructure; Land Use and Planning; and Noise and Visual Resources. FEMA has made the following determinations by resource category based upon the PEA. However, project- and site-specific effects will be further evaluated in a SER for each project:

Topography, Soils, and Geology:

For all alternatives, project effects on topography, soils, and geology are expected to be minimal. Topographic impacts would be limited to temporary surficial disturbances during construction. Soils would be temporarily disturbed. However, implementation of best management practices would decrease the temporary adverse effects from construction. Pursuant to the Farmland Protection Policy Act, there are no prime farmland soils in Monroe County. Regarding geology, there is a potential, although minimal, for additional sinkhole development from shallow injection well use. A project- and site-specific geotechnical study must be completed for each

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project, of which the findings will be documented in the SER. Proposed mitigation measures would be incorporated into the site design and construction of any proposed shallow injection wells.

Water Resources and Water Quality:

The proposed project alternatives' overall effects on water resources are expected to be beneficial. An improvement in wastewater effluent treatment would substantially reduce discharge of suspended solids, nutrient, and pathogens to shallow groundwater. Because the Key's groundwater is in hydraulic communication with nearshore waters, these along with inland canals, would similarly benefit incrementally in the project vicinity. To better quantify water quality improvements it is recommended that project applicants implement a monitoring program in their project areas.

Presidential Executive Order (EO) 11990 (Wetlands Protection) requires Federal agencies to minimize wetland losses, except when there are no practicable alternatives. In accordance with its implementing regulations at 44 CFR Part 9, FEMA will apply an Eight Step Decision Making Process to evaluate project- and site-specific wetland effects in the SERs, including project applicant coordination with the U.S. Army Corps of Engineers and Florida Department of Environmental Protection. While adverse wetland impacts are possible, they are expected to be minimal, and mitigated per County, State, and Federal permitting requirements.

EO 11988 (Floodplain Management) requires Federal agencies to minimize floodplain effects, except when there are no practicable alternatives. As with EO 11990, FEMA will apply an Eight Step Decision Making Process to evaluate project- and site-specific floodplain effects in the SERs. However, since most of the Keys are within the 100-year floodplain, there will not likely be practicable alternatives to siting wastewater projects in the floodplain. Project effects would be minimized through compliance with Monroe County's floodplain ordinance.

Biological Resources:

The proposed project alternatives' overall effects on biological resources are expected to be generally beneficial. Positive effects on nearshore marine habitats, including seagrass meadows and coral reefs, would likely occur due to reduced suspended solids, nutrient loading, and pathogen release from improved wastewater treatment. The proposed wastewater project sites may result in some terrestrial habitat losses. However, most construction would be in developed, disturbed areas with low habitat value. Endangered Species Act Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act require federal agencies to consider project effects on federally-listed threatened and endangered species, their critical habitats, as well as Essential Fish Habitat. Consultation has been initiated with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). Both agencies have expressed support for the improved wastewater treatment. Site- and project-specific consultations will be completed as part of the SERs. Conscientious site selection, a site-specific biological evaluation, further coordination with USFWS and NMFS, and implementation of appropriate mitigation measures would minimize potential adverse impacts to biological resources and special status species. However, any "significant" adverse project effects on biological resources that can not

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be adequately mitigated would require preparation of an EIS.

Air Quality:

No notable long-term air quality effects are anticipated from any of the project alternatives. Project effects would include localized temporary minor adverse effects during construction, from additional windblown dust and vehicle exhaust. Fugitive dust would be minimized during construction. Objectionable odors have the potential to occur with each alternative. Odors would be mitigated in accordance with Florida Administrative Codes 62-604.400 and 62-296.320.

Cultural Resources:

National Historic Preservation Act (NHPA) Section 106 as implemented by 36 CFR Part 800, requires Federal agencies to identify cultural resources that may be affected by the proposed action or alternatives. Although cultural resource impacts from all alternatives are expected to be minimal, if present, they may be affected by ground disturbing activities or by viewshed alteration. Site- and project-specific cultural resources evaluations will be coordinated with the Florida State Historic Preservation Officer (SHPO) as part of the SER process. If unanticipated cultural resources are discovered during project activities, work would immediately stop in the affected area until further coordination with the SHPO can be completed. Any “significant” adverse projects effects on cultural resources that cannot be adequately mitigated would require preparation of an EIS.

Socioeconomics:

The PEA considers socioeconomic impacts in terms of public health, tourism and fishing industries, and local fees and taxes. Although available information does not conclusively correlate Keys public health concerns with poor water quality, bacteria and viruses linked to human sewage are often present in some Keys nearshore waters. Accordingly, implementation of the project alternatives, with improved wastewater treatment, would reduce public health concerns from poor water quality.

Because water quality is expected to improve at least in the areas served by the proposed alternatives, tourism and fishing in those and adjacent areas may also be expected to benefit because these industries depend on good water quality. Public health risks from potential viral and bacterial infections would be reduced by the proposed alternatives, which may increase the number of visitors to project area beaches that have previously posted health advisories. Costs to tourists may increase slightly, if some of the alternative implementation costs are passed on to tourists through increased local fees and taxes. Although the proposed service areas are mostly residential, those with tourist attractions may experience minor temporary adverse tourism effects from rerouted traffic and/or utility disruptions, during construction.

Alternative implementation will increase local wastewater management fees and/or taxes to service recipients, particularly to those that currently have cesspits or septic systems. However, project alternatives with FEMA funding assistance (Alternatives 2 and 3) are expected to be affordable for residential service recipients, because the project’s system capital costs and

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abandonment and lateral costs would be substantially reduced by FEMA funds. Under Alternative 1, without FEMA funding, the system capital costs for a centralized wastewater treatment system (assumptions presented in PEA) are estimated to range between \$14,000 to \$17,000 per Equivalent Dwelling Unit (EDU), and the monthly operation and maintenance fee would range between \$30 and 60 per EDU.

After FEMA funding has been applied for Alternative 2, the system capital costs to service recipients are expected to range between \$3,000 and \$4,500; and the abandonment and lateral costs are expected to range between \$1,500 and \$5,000 per EDU. The monthly operation and maintenance fee per EDU is expected to range between \$30 and \$60, which would not be eligible for FEMA funding assistance. Assuming initial hook-up costs are amortized at 6% over 20 years, the total cost per EDU per month would range between \$63 and \$128. Most service recipients are expected to incur costs near \$75 per month, per EDU, which is consistent with the commonly used utility affordability threshold of 2 percent of Median Household Income. It should be noted that implementation of wastewater reuse as a disposal alternative is estimated to further increase per EDU costs between \$5.50 and \$19.75 per month.

Although the actual costs for Alternative 3 are more difficult to quantify, with the assumptions presented in the PEA, the costs per EDU would range between \$2,500 and \$8,200, which does not include the cost of land for siting the system. The total monthly cost including amortized capital costs (6% for 20 years); and operation and maintenance fees would range between \$63 and \$118. After FEMA funding has been applied to the capital costs, the per EDU cost is also expected to be near the \$75 per month affordability value (described above).

The economic impact to service recipients may be further reduced at the project applicant's discretion with additional funding sources, through amortization of initial hook-up costs and other measures. The project-specific SER will provide additional information on project costs and economic impacts. However unmitigated costs per EDU above these values may be considered unreasonable and possibly a significant economic impact; and therefore, may require preparation of an EIS for a project. The selected services area for these alternatives do not have many businesses. Accordingly, economic affects on businesses will be evaluated in the project-specific SERs.

Hazardous Materials:

For each alternative, adverse project effects from hazardous materials are expected to be minimal. Hazardous materials are not permitted in the sewage stream. None of the alternatives considered in the PEA involve combined stormwater/sewer systems. The sludge from each alternative would be transported and disposed at existing licensed facilities in Miami-Dade County. Project sites may contain hazardous materials, so a Phase I Environmental Site Assessment would be performed as part of the SER process to determine the presence of such contaminants. Any necessary remedial action would also be presented in the SER document.

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Demographics and Environmental Justice:

EO 12898 (Environmental Justice) requires Federal agencies to identify and address potential disproportionately high and adverse effects, from its actions, on minority and low-income populations. Implementation of the proposed alternatives would equally benefit, through improved water quality, the various demographic groups in the Keys. Siting of wastewater facilities has the potential to disproportionately affect minority or low-income populations, simply because they may comprise a large proportion of service recipients in a selected area, however these effects would be mitigated through facility and site design elements and specifications.

The increase in wastewater management costs could have a highly disproportionate and adverse economic effect on low-income service recipients. It has been determined that the low-income population cannot afford an increase in wastewater management costs and fees above their present costs for compliant systems. Accordingly, under Alternative 1, low-income populations could potentially incur highly disproportionate and adverse economic effect if project applicants and their successors do not secure other funding to greatly offset costs per EDU. Under Alternatives 2 and 3, FEMA assistance guidelines have been outlined to further reduce (beyond what has been presented above in the Socioeconomic section) the economic impact of the proposed wastewater projects to qualified low-income service recipients. The levels of assistance are based upon the U.S. Department of Housing and Urban Development's (HUD) definitions of very low and low family income levels. Qualified very low-income service recipients, per EDU, would have 90 percent of their system capital costs; and 90 percent of their abandonment and lateral costs, up to \$3,000; assisted with grant funds. Qualified low-income service recipients, per EDU, would have 70 percent of their system capital costs; and 70 percent of their abandonment and lateral costs, up to \$3,000; assisted with grant funds. No FEMA funding assistance is available for the monthly operation and maintenance fees.

The adverse economic effects on low-income service recipients may be further reduced at the project applicant's discretion with additional funding sources, through amortization of initial hook-up costs, or other measure(s). The project-specific SER will provide additional information on project costs and economic effects on present low-income populations. Unmitigated costs per EDU above these values may be considered unreasonable and a significant adverse economic impact on low-income populations; and may require preparation of a project-specific EIS.

Infrastructure:

For each alternative, the construction and installation of wastewater system components would temporarily increase and disrupt traffic in the project area. A minor, temporary disruption in wastewater service and other utilities would occur during construction activities. Potential long-term project effects on infrastructure are expected to be minimal. Construction areas would be delineated in the project specific SER document.

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Land Use and Planning:

None of the project alternatives are expected to change the county's existing land use and growth patterns. The project alternatives are proposed in developed and mostly built-out service areas. Facilities may be sited in a wide range of land use zones, including residential. Growth would continue to be limited by the Rate of Growth Ordinance permitting system. Alternative effects on special status lands such as areas managed under the Coastal Zone Management Act, and conservation and recreation lands are expected to be minimal, if applicable. Any such areas affected would be identified in the project SER. Federal funding, such as is proposed for these alternatives, is prohibited in Coastal Barrier Resource units, pursuant to the Coastal Barriers Resources Act. The natural resource value of special status lands should benefit from these projects to the extent they depend on good water quality.

Noise and Visual Resources:

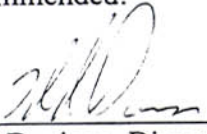
Anticipated project effects to ambient noise levels and visual resources are expected to be similar and minimal for all alternatives. Noise levels in the project area would increase during construction, but the overall decibel level would not pose any public health risks. The SER will evaluate project-specific noise and visual characteristics; and if necessary, prescribe mitigation measures in compliance with the Monroe County noise ordinance. Noise effects on construction workers could be more significant than on residents and tourists. However these may be mitigated through compliance with applicable occupational health and safety regulations. The projects may alter the viewshed of adjacent properties. However, adequate facility buffering and visual screening would mitigate these adverse impacts.

Conclusions

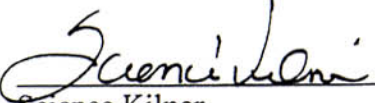
Based upon the PEA for the proposed projects' alternatives, and upon other supporting evidence, and in accordance with NEPA, CEQ guidelines for NEPA implementation, FEMA 44 CFR Part 10 (Environmental Considerations), and Presidential Executive Orders 11988 (Floodplain Management), 11990 (Wetlands Protection), and 12898 (Environmental Justice), FEMA has determined that the proposed actions with the prescribed agency consultations and proposed mitigation measures would have no significant adverse impact on the human environment. Project-specific effects, interagency consultations, and impact mitigation measures not addressed at the PEA level would be evaluated in each projects' SER. Where the resulting SEA finds that the project specific environmental effects are not significant, FEMA will prepare a supplemental FONSI to tier upon this PFONSI to document NEPA compliance. If a SEA determines that a project has environmental effects are to be "significant" and beyond the scope of this PFONSI, an EIS will be prepared for that project. Therefore the result of the SEA will be either a project-specific supplemental FONSI or Record of Decision (ROD) depending on the significance of effects.

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Recommended:

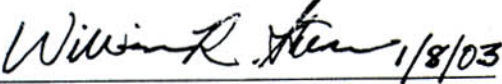


Todd Davison, Director Date
Federal Insurance and Mitigation Division



Science Kilner Date
Lead Environmental Specialist

Approved:



William R. Straw, Ph.D. Date
Regional Environmental Officer